

REMARKS

This response is offered in reply to the Office Action of August 4, 2003. A petition and fee for a one month time extension are enclosed.

Applicant acknowledges and appreciates allowance of claims 15-19 and indicated allowability of claims 3-6, 9-12, 21-23 and 25-27.

On page 2 of the office action, claims 1 and 24 are rejected under 35 USC 102(b) in view of the Brown US Patent 3 657 063.

Applicant has amended claim 1 in a manner believed to distinguish patentably over the Brown '063 patent. For example, the '063 patent does not disclose a ceramic thermal barrier coating wherein at least a portion of the thermal barrier coating comprises a stabilized zirconia coating including yttria and hafnia in an amount of at least about 15 weight % effective to reduce thermal conductivity of the stabilized zirconia coating as compared to a similar stabilized zirconia coating having an impurity amount of hafnia.

Applicant has amended claim 24 in a manner also believed to distinguish patentably over the Brown '063 patent. For example, pending claim 24 recites a ceramic coating comprising zirconia, yttria, and hafnia wherein hafnia is present in an amount of at least about 15 weight % of the coating effective to reduce thermal conductivity of the ceramic coating as compared to a similar ceramic coating having an impurity amount of hafnia therein. The '063 patent does not disclose such a ceramic coating.

Reconsideration of the Section 102 rejection of claims 1 and 24 is requested.

Also on page 2 of the office action, claim 1, 7, 8, 13, 14, 20, and 24 are rejected under 35 USC 102(e) in view of the Alperine US Patent 6 333 118.

Applicant requests reconsideration of this rejection since the '118 patent does not disclose a ceramic thermal barrier coating as set forth in amended claim 1 wherein at least a portion of the

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thermal barrier coating comprises a stabilized zirconia coating including yttria and hafnia in an amount of at least about 15 weight % effective to reduce thermal conductivity of the stabilized zirconia coating as compared to a similar stabilized zirconia coating having an impurity amount of hafnia.

The same applies to amended claim 7 which recites an article comprising a metallic substrate and a ceramic coating on a surface of the substrate, wherein the ceramic coating has at least a portion comprising a stabilized zirconia coating including yttria and hafnia in an amount of at least about 15 weight % effective to reduce thermal conductivity of the stabilized zirconia coating as compared to a similar stabilized zirconia coating having an impurity amount of hafnia. Claims 13 and 14 depend from claim 7 and are believed allowable also.

The same applies to amended claims 20 and 24 which recite a thermal barrier coating (claim 20) or ceramic coating (claim 24) comprising zirconia, yttria, and hafnia wherein hafnia is present in an amount of at least about 15 weight % of the coating effective to reduce thermal conductivity of the coating as compared to a similar coating having an impurity amount of hafnia therein. The '118 patent is silent with respect to claims 20 and 24.

Reconsideration of this Section 102 rejection is requested.

On page 3 of the office action, claim 1, 7, 8, 13, 14, 20, and 24 are rejected under 35 USC 102(e) in view of the Stowell US Patent 6 413 578.

Applicant has amended claims 1, 7, 20 and 24 in a manner that distinguishes over the '578 patent. In particular, the '578 patent does not disclose a ceramic thermal barrier coating as set forth in amended claim 1 wherein at least a portion of the thermal barrier coating comprises a stabilized zirconia coating including yttria and hafnia in an amount of at least about 15 weight % effective to reduce thermal conductivity of the stabilized zirconia coating as compared to a similar stabilized zirconia coating having an impurity amount of hafnia.

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The same applies to amended claim 7 which recites an article comprising a metallic substrate and a ceramic coating on a surface of the substrate, wherein the ceramic coating has at least a portion comprising a stabilized zirconia coating including yttria and hafnia in an amount of at least about 15 weight % effective to reduce thermal conductivity of the stabilized zirconia coating as compared to a similar stabilized zirconia coating having an impurity amount of hafnia. Claims 13 and 14 depend from claim 7 and are believed allowable also.

The same applies to amended claims 20 and 24 which recite a thermal barrier coating (claim 20) or ceramic coating (claim 24) comprising zirconia, yttria, and hafnia wherein hafnia is present in an amount of at least about 15 weight % of the coating effective to reduce thermal conductivity of the coating as compared to a similar coating having an impurity amount of hafnia therein. The '578 patent is silent with respect to claims 20 and 24.

Reconsideration of this Section 102 rejection is requested.

Also on page 3 of the office action, claim 1, 7, 8, 13, 14, 20, and 24 are rejected under 35 USC 103(a) in view of the Alperine US Patent 6 333 118.

The examiner acknowledges that the '118 patent is deficient with respect to examples of a thermal barrier layer including hafnia. Applicant would point out that the '118 patent is also deficient with respect to inclusion of zirconia, yttria, and hafnia in a thermal barrier coating, or a portion thereof, and in fact teaches away from Applicant's claims 1, 7, 8, 13, 14, 20, and 24.

Reconsideration of the Section 103 rejection is requested.

On page 4 of the office action, claim 1, 7, 8, 13, 14, 20, and 24 are rejected under 35 USC 103(a) in view of the Stowell US Patent 6 413 578.

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The examiner acknowledges that the '578 patent is deficient with respect to examples of a composition of the ceramic repair paste in the ranges claimed. Applicant would point out that the '578 patent is also deficient with respect to inclusion of zirconia, yttria, and hafnia in a thermal barrier coating, or a portion thereof, and in fact teaches away from Applicant's claims 1, 7, 8, 13, 14, 20, and 24.

Reconsideration of the Section 103 rejection is requested.

Applicant believes the pending claims are in condition for allowance, and action to that end is requested.

Respectfully submitted,



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enclosure: Postal card

CERTIFICATE OF MAILING

I hereby certify that this correspondence and enclosures are being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents

P.O. Box 1450, Alexandria, VA 22313-1450, on November 28, 2003.



Edward J. Timmer